

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-6-482
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

GENERAL MOTORS CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-3;

IT IS ORDERED AND RESOLVED: That the following General Motors Corporation 1990 model-year gasoline engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) of 8,501 to 14,000 pounds:

| <u>Engine Family</u> | <u>Displacement Liters (Cubic Inches)</u> | | <u>Exhaust Emission Control Systems (Special Features)</u> |
|----------------------|---|-------|--|
| LGM04.3BLA3 | 4.3 | (262) | Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection) |
| LGM05.7BLA3 | 5.7 | (350) | Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection) |
| LGM07.4BLA3 | 7.4 | (454) | Exhaust Gas Recirculation Oxygen Sensor Oxidation Catalyst (Throttle Body Electronic Fuel Injection) |

Engine models and codes are listed on attachments.

The following are the certification emission standards for these engine families:

| <u>Hydrocarbons gm/bhp-hr</u> | <u>Carbon Monoxide gm/bhp-hr</u> | <u>Nitrogen Oxides gm/bhp-hr</u> |
|-----------------------------------|--|--------------------------------------|
| 1.1 | 14.4 | 6.0 |

The following are the certification emission values for these engine families:

| <u>Engine Family</u> | <u>Hydrocarbons gm/bhp-hr</u> | <u>Carbon Monoxide gm/bhp-hr</u> | <u>Nitrogen Oxides gm/bhp-hr</u> |
|----------------------|-----------------------------------|--|--------------------------------------|
| LGM04.3BLA3 | 0.5 | 8.5 | 4.1 |
| LGM05.7BLA3 | 0.4 | 6.3 | 3.0 |
| LGM07.4BLA3 | 0.4 | 10.4 | 4.4 |

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Section 2036 and California Health and Safety Code Section 43205.5).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 18th day of February, 1989.



K. D. Drachand, Chief
Mobile Source Division

(FOR CARB USE ONLY)

(1990)

AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Families: LGM04.3BLA3

~~LGM04.3BLA3~~

LGM05.7BLA3

~~LGM05.7BLA3~~

LGM07.4BLA3

Engine CID (Liters) - Type: 262 (4.3), ~~262 (4.3)~~, 350 (5.7), 366 (6.0), 427 (7.0),
454 (7.4)

ABBREVIATIONS:

Ignition System

CA-Centrifugal Advance
EEC-Electronic Engine Control
EI-Electronic Ignition
SAC-Electronic Spark Advance
Control
VA-Vacuum Advance
VR-Vacuum Retard
ECU-Electronic Control Unit

Fuel System

CFI, CL, DID, DIP, EFI, MFI
nV-nVenturi Carburetor

GM Abbreviations

A/C-Air Conditioning
FC-Forward Control
HD-Heavy Duty
CID-Cubic Inch Displacement
TBI-Throttle Body Injection
RWD-Rear Wheel Drive
4x2-Two Wheel Drive
4x4-Four Wheel Drive
6x4-Four Wheel Drive

Exhaust Emission Cont System

AIP-Air Injection Pump
AIV-Air Injection Valve
CL-Closed Loop
DBC-Dual Bed Catalyst
EGR-Exhaust Gas Recirculation
EIC-Electronic Injection Control
EM-Engine Modification
OC-Oxidation Catalyst System
OS-Oxygen Sensor
HOS-Heated Oxygen Sensor
SPL-Smoke Puff Limiter or
Throttle Delay
TOC-Trap Oxidizer, Continual
TOP-Trap Oxidizer, Periodical
TR-Thermal Reactor
TWC-Three-Way Catalyst System

Special Features

CCV-Combustion
Chamber Valve
CFI-Central Fuel
Injection
DID-Diesel
Injection-
Direct
DIP-Diesel
Injection-
Prechamber
EFI-Electronic
Fuel Injection
IC-Intercooler/
Aftercooler
MFI-Mechanical
Fuel Injection
TC-Turbocharger

Engine: Front (all Vehicles)

Drive: See Chassis Type (Page 2), all 4x2 vehicles are RWD.

ISSUED: 12-12-88

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-

482

Engine Families:

LGM04.3BLA3

LGM05.7BLA3

Vehicle Models (Series)

Engine CID Values Appear Below

Forward Control - G Models

| | | |
|-------------------------|-------|-----|
| Hi-Cube Van/MagnaVan | - G30 | 350 |
| Cutaway Van/Vandura Sp1 | - G30 | 350 |
| Van/Vandura | - G30 | 350 |
| Sportvan/Rally Wagon | - G30 | 350 |

Forward Control - P Models

| | |
|-------------------------|-------|
| Forward Control Chassis | - P20 |
| Step-Van/Value Van | - P20 |

| | | | |
|-------------------------|-------|-----|-----|
| Forward Control Chassis | - P30 | 262 | 350 |
| Motor Home Chassis | - P30 | | |
| Step-Van/Value Van | - P30 | 262 | 350 |

Suburban

| | | |
|------|--|-----|
| RV20 | | 350 |
|------|--|-----|

Pickup

| | | |
|---------|-----|-----|
| CK20/30 | 262 | 350 |
| RV20/30 | | 350 |

Forward Control Chassis

| | |
|--------|-----|
| P4T042 | 262 |
|--------|-----|

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Family: LGM04.3BLA3

Exhaust Emission Control System: EGR/OC/OS (CFI)

Liter (CID): 4.3 (262)

| ENG MODEL (ENG CODE) | MAXIMUM RATED HP AT RPM | RATED TORQUE AT RPM | IGNITION SYS (ECU) MFR PART NO. | FUEL SYSTEM (TBI) MFR PART NO. | EGR VALVE MFR PART NO. | CATALYST MFR PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| LB4 (1) | 155 @ 4000 | 230 @ 2400 | 16126541 | Rochester 17090008 17091028 | 17087026 | 25103516 |
| LB4 (2) | | | 16126551 16135821 16143911 | | | |

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004
005

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY DUTY GASOLINE VEHICLES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

Engine Families:

~~LGM07.4BLA3~~

~~LGM07.4BLA3~~

LGM07.4BLA3

Vehicle Models (Series)

Engine CID Values Appear Below

Forward Control - G Models

| | | |
|-------------------------|-------|-----|
| Hi-Cube Van/Magnavan | - G30 | 454 |
| Cutaway Van/Vandura Spl | - G30 | 454 |
| Van/Vandura | - G30 | 454 |
| Sportvan/Rally Wagon | - G30 | 454 |

Forward Control - P Models

| | |
|-------------------------|-------|
| Forward Control Chassis | - P20 |
| Step-Van/Value Van | - P20 |

| | | |
|-------------------------|-------|-----|
| Forward Control Chassis | - P30 | 454 |
| Motor Home Chassis | - P30 | 454 |
| Step-Van/Value Van | - P30 | 454 |

Conventional Cab & Chassis

| | | |
|----------------|----------------|----------|
| C5D042 | | 366 |
| C6D042 | 366 | 366 |
| C7D042, C7D064 | 366 | 366, 427 |

School Bus

| | | |
|--------|----------------|-----|
| B6P042 | 366 | 366 |
| S7T042 | 366 | 366 |

Forward Control Chassis

| | | |
|--------|----------------|-----|
| P4T042 | 366 | |
| P6T042 | 366 | 366 |

Pickup

| | | |
|--------|--|-----|
| CK20CC | | 454 |
| R20 | | 454 |
| CKRV30 | | 454 |

Suburban

| | | |
|-----|--|-----|
| R20 | | 454 |
|-----|--|-----|

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

Engine Family: LGM05.7BLA3

Exhaust Emission Control System: EGR/OC/OS (CFI)

Liter (CID): 5.7 (350)

| ENG MODEL (ENG CODE) | MAXIMUM RATED HP AT RPM | RATED TORQUE AT RPM | IGNITION SYS (ECU) MFR PART NO. | FUEL SYSTEM (TBI) MFR PART NO. | EGR VALVE MFR PART NO. | CATALYST MFR PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| L05 (1,8) | 190 @ 4000 | 300 @ 2400 | 16084551 | Rochester 17089045 | 17087185 | 25103516 |
| L05 (2,0) | | | 16084601 | Rochester 17089046 | | |
| L05 (5) | | | 16136031 | Rochester 17089045 | | |

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HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Family: LGM05.7BLA3

Exhaust Emission Control System: EGR/OC/OS (CFI)

Liter (CID): 5.7 (350)

| ENG MODEL (ENG CODE) | MAXIMUM RATED HP AT RPM | RATED TORQUE AT RPM | IGNITION SYS (ECU) MFR PART NO. | FUEL SYSTEM (TBI) MFR PART NO. | EGR VALVE MFR PART NO. | CATALYST MFR PART NO. |
|-------------------------|-------------------------------|---------------------------|--|---|------------------------------|-----------------------------|
| L05 (1) | 190 @ 4000 | 300 @ 2400 | 16084551 | Rochester 17089045 | 17087185 | 25103516 |
| L05 (2) | | | 16084601 | Rochester 17089046 | | |
| L05 (5) | | | 16136031 | Rochester 17089045 | | |

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HDG-SDS

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AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6- 482

Engine Family: LGM07.4BLA3

Exhaust Emission Control System: EGR/OC/OS (CFI)

Liter (CID): 7.4 (454), ~~7.0 (426) and 4.3 (264)~~

| ENG MODEL (ENG CODE) | MAXIMUM RATED HP AT RPM | RATED TORQUE AT RPM | IGNITION SYS (ECU) MFR PART NO. | FUEL SYSTEM (TBI) MFR PART NO. | EGR VALVE MFR PART NO. | CATALYST MFR PART NO. |
|---|-------------------------------|---------------------------|---|---|------------------------------|-----------------------------|
| L30 4.3L 6.0L | 285 @ 4000 | 325 @ 2400 | 16126501 16126591 16126601 16126611 16137561 | Rochester 17090004 | 17090002 | 25103516 |
| L30 4.3L 7.4L | 240 @ 4000 | 375 @ 2000 | 16126521 16126531 | Rochester 17090005 | | |
| → L19 (3.0) 7.4L | 230 @ 3600 | 385 @ 1600 | 16075521 | Rochester 17090015 | 17087189 | 25103516* |
| → L19 (4.0) 7.4L | | | | Rochester 17090016 | | 25103516 |

* Converter welded into tail pipe, assembly P/N: 25127704 R/V
25127705 G
25127831 C/K

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HEAVY-DUTY GASOLINE ENGINES

Manufacturer: General Motors Corporation

Executive Order No.: A-6-482

Engine Family: LGM07.4BLA3

Exhaust Emission Control System: EGR/OC/OS (CFI)

Liter (CID): 7.4 (454)

| ENG MODEL (ENG CODE) | MAXIMUM RATED HP AT RPM | RATED TORQUE AT RPM | IGNITION SYS | FUEL SYSTEM | EGR VALVE MFR PART NO. | CATALYST MFR PART NO. |
|-------------------------|-------------------------------|---------------------------|--------------------------|--------------------------|------------------------------|-----------------------------|
| | | | (ECU) MFR PART NO. | (TBI) MFR PART NO. | | |
| L19 (3) 7.4L | 230 @ 3600 | 385 @ 1600 | 16126841 16151331 | Rochester 17090015 | 17087189 | 25103516* |
| L19 (4) 7.4L | | | 16126831 16151341 | Rochester 17090016 | | 25103516* |

* Converter welded into tail pipe, assembly P/N: 25127704 R/V
25127705 G, R/V
25127831 C/K

ISSUED: 005

REV. NO.: 007, 008, 009, 010

HDG-SDS

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